



# Service Bulletin

## PRELIMINARY INFORMATION

**Subject:** Diagnostic Tips For SIDI Hard Start Cold

**Models:** 2009-2016 Buick Enclave  
2010-2016 Buick LaCrosse  
2010-2017 Buick Regal  
2012-2017 Buick Verano  
2013-2015 Cadillac ATS  
2008-2015 Cadillac CTS  
2008-2010 Cadillac STS  
2008-2016 Cadillac SRX  
2013-2016 Cadillac XTS  
2010-2015 Chevrolet Camaro  
2012-2014 Chevrolet Caprice PPV  
2012-2014 Chevrolet Captiva Sport  
2010-2017 Chevrolet Equinox  
2012-2017 Chevrolet Impala  
2009-2017 Chevrolet Traverse  
2009-2016 GMC Acadia  
2010-2017 GMC Terrain  
2009-2010 Saturn Outlook  
Equipped with SIDI 4 or 6 cylinder engines

*This PI was superseded to update Model Years. Please discard PIP5180.*

The following diagnosis might be helpful if the vehicle exhibits the symptom(s) described in this PI.

### Condition/Concern

Hard start, extended crank, or black smoke from the exhaust when starting.

### Recommendation/Instructions

#### Basic Tests:

Verify Fuel Quality?

Spark Test with ST125, if a coil issue is suspected then follow Ignition System Diagnostics.

Perform a Compression Test.

You should see 150-185 Average Compression, no cylinder should be less than 140 psi on a HFV6.

You should see 170-200 Average Compression, no cylinder should read less than 100 psi on the 4 cylinder engine.

If the condition is a "Hard Start Cold" only, and you suspect that you may have a carbon issue causing a valve to stay open, follow the latest version of PIP5029 and perform a cold compression test.

Also install a vacuum gauge prior to cold start and watch needle for signs of a sticking valve.

## Fuel System Check:

\*Follow all these steps in order.

The following tests should be done after an overnight cold soak.

Set your vehicle up with the CH 48027 digital pressure gauge and J37287 fuel line with shut-off valve.

Run vehicle to purge all air from fuel system and then shut vehicle off and let sit overnight.

Unplug the injector harness connector.

## Next Morning:

Key On and do not start engine – Using a CH 48027 Digital Pressure Gauge, verify “Key On” engine off, prime pulse fuel pressure should be between 55-60 psi  
Record reading.

This test will confirm correct operation of the in-tank fuel pump assembly.

Use your Tech2 or GDS set in PSI to also confirm what the Fuel Rail Pressure Sensor is reading as this should always be close to what your Digital Fuel Pressure Gauge reads for low side pressure during this test.

This will also confirm if there is an off-set with the Fuel Rail Pressure Sensor.

Next you will crank the engine to see if it fires.

With the injector harness connectors unplugged, the injectors are now electrically disabled so no fuel should be delivered to the engine.

When cranking over the engine, if engine fires this means that one or more injectors have been leaking and have introduced fuel into one or more cylinders.

Reconnect the injector harness connectors and start the engine, let the vehicle run for ten minutes and then shut vehicle down.

You will now close the shut-off valve in the J37287 Fuel Line, which will now separate the engine side of the fuel system from the rear section of the return- less fuel system.

Using the CH 48027 Digital Pressure Gauge, look for a drop in the high side of the fuel system, by monitoring low side pressure.

With the J37287 valve closed, the system should hold at least 60 psi for a few hours.

If you see a rapid decrease in fuel pressure, this would indicate a leaking High Pressure Fuel Pump or leaking injectors since the fuel pressure cannot bleed off to the tank as your J37287 valve is closed.

All this is assuming that your gauge is good with no leaks or any leaks at the Schrader valve.

## Warranty Information

The correction for this concern may be one of several repairs described in the diagnostic tips above.

For vehicles repaired under warranty, please use the appropriate warranty labor operation based on the actual cause and repair.

Please follow this diagnostic or repair process thoroughly and complete each step. If the condition exhibited is resolved without completing every step, the remaining steps do not need to be performed.

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GM bulletins are intended for use by professional technicians, NOT a "do-it-yourselfer". They are written to inform these technicians of conditions that may occur on some vehicles, or to provide information that could assist in the proper service of a vehicle. Properly trained technicians have the equipment, tools, safety instructions, and know-how to do a job properly and safely. If a condition is described, DO NOT assume that the bulletin applies to your vehicle, or that your vehicle will have that condition. See your GM dealer for information on whether your vehicle may benefit from the information.



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